



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/743,717

03/13/2001

Thierry Cheng

1200.452

7378

7590

10/23/2003

Liniak Berenato  
Longacre & White  
Suite 240  
6550 Rock Spring Drive  
Bethesda, MD 20817

EXAMINER

SONG, HOON K

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/743,717

Applicant(s)

CHENG ET AL.

Examiner

Hoon Song

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-18, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 19 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by Pientka et al. (US 6052196).

Regarding claim 14, Pientka teaches a device for detecting a parameter representative of a state associated with a glazing of a window of a motor vehicle including a module comprising

Means for emitting (12) at least one electromagnetic beam towards one face of the glazing;

Means for receiving (14) at least a part of the beam returned by said face; and

At least one insert (34) at least partly implanted into a thickness of the glazing provided with a surface substantially opposite said face said surface formed of a material that substantially reflects the beam in such a way that the beam from inception to reception undergoes a plurality of reflections in the thickness of the glazing between the surface of the insert and the face of the glazing wherein said beam follows a path

from said means for emitting to said one face of the glazing without passing through said insert (figure 2).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pientka in view of Coulling et al. (US 6084519).

Regarding claim 12, Pientka teaches a device, comprising:

means (12) for emitting electromagnetic beam (18) towards one face of the glazing (28);

Mean for receiving (22) at least a part of the beam returned by said face; and

At least one insert (34) at least partly implanted into a thickness  $e$  of the glazing (28), provided with a surface substantially opposite said face, said surface formed of a material that substantially reflects the beam (figure 2), in such a way that the beam, from emission to reception, undergoes a plurality of reflections in the thickness of the glazing (figure 2), between the surface of the insert and the face of the glazing, wherein said beam follows a path from said means for emitting to said one face of the glazing without passing through said inert (figure 17).

However Pientka fails to teach at least two emitting means.

Coulling teaches an apparatus for controlling the operation of windshield wipers of a vehicle having two light emitting means (fog led and rain led).

It would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to adapt Coulling's two light sources in order to detect more than one condition of the windshield such as water droplets on outside of a windshield and condensed water vapor on inside of the windshield (column 2 line 17+).

Claims 4-11, 13, 15-16 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pientka in view of Noack (US 5796106).

Regarding claims 5 and 13, Pientka teaches a device (figure 17), comprising:

Means for emitting (12) at least one electromagnetic beam toward one face of the glazing (12);

Means for receiving (14) at least a part of the beam returned by said face; and

At least one insert (34) at least partly implanted into a thickness  $e$  of the glazing, provided with a surface substantially opposite said face, said surface formed of a

material that substantially reflects the beam, in such a way that the beam, from emission to reception, undergoes a plurality of reflections in the thickness of the glazing, between the surface of the insert and the face of the glazing, wherein said beam follows a path from said means for emitting to said one face of the glazing without passing through said insert (figure 2).

However Pientka fails to teach that said means for emitting and means for detecting are disposed within said glazing.

Noack teaches the source and detector are disposed within a glazing (figure 6).

In view of Noack, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to insert the light source and detector within the glazing in order to detect the presence of liquids or solids on windshield (abstract). Accordingly, one would be motivated to dispose the emitting means because it would save additional space for the means for emitting and detecting.

Regarding claim 4, Pientka teaches that the receiving means include at least one sensor (14) for detecting the said beam part returned, and applied against one of the faces of the glazing (figure 2).

Regarding claim 5, Noack teaches that the receiving means includes at least one sensor for detecting said beam part reflected and implanted into the thickness of the glazing.

Regarding claim 6, Pientka teaches that the emitting means (12) are configured to emit a first electromagnetic beam (figure 17) intended to be at least partly returned by a front face (12) of the glazing, as well as a second beam (figure 17) intended to be at

least partly returned by a rear face (11) of the glazing, with a view to detecting foreign substances on the front and/or rear faces of the glazing (10).

Regarding claim 7, Pientka teaches that the module (1) includes at least one insert (34, 35) in the thickness (13) of the glazing, equipped with a first reflecting surface (figure 17) opposite the front face (12), and with a second reflecting surface (figure 17) opposite the rear face (11), while the receiving means (61, 62) are configured to receive at least parts of the first (51) and second (52) beams, which are reflected respectively by the front (12) and rear (11) faces.

Regarding claim 8, Pientka teaches that the emitting means include first and second sources (51, 52) suitable for emitting the said first and second beams (figure 17) respectively, while the receiving means include a sensor (61, 62) for detecting the reflected parts of the first and second beams; and in that the first and second sources, as well as the said sensor, are applied against the same face of the glazing (figure 17).

Regarding claim 9, Pientka teaches that the module (1) includes a luminous-flux sensor, especially a solar-flux sensor (28), inserted into the thickness (13) of the glazing.

Regarding claim 10, Pientka teaches that the said glazing comprising a spacer of chosen thickness, the said module is at least partly implanted into the thickness of the said spacer (figure 3).

Regarding claim 11, Pientka teaches that it includes, in its thickness, an insert (134, 35) of a detection device.

Regarding claim 15, Noack teaches that the emitting means includes at least one emitting source implanted into the thickness of the glazing (figure 1).

Regarding claim 16, Noack teaches the emitting means includes at least one emitting source applied against one of the faces of the glazing (figure 1).

Regarding claim 17, Pientka teaches that the receiving means include at least one sensor (14) for detecting said beam part returned and applied against one of the faces of the glazing (figure 1).

Regarding claim 18, Pientka teaches the receiving means include at least one sensor (14) for detecting said beam part reflected (figure 1).

Regarding claim 21, Pientka teaches the module includes a luminous flux sensor inserted into the thickness of the glazing.

Regarding claim 22, Pientka teaches that the glazing comprising a spacer of chosen thickness said module is at least partly implanted into the thickness of the spacer (figure 2).

### ***Allowable Subject Matter***

Claims 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: None of the prior art teaches or suggests that the emitting beams are configured to emit a first electromagnetic beam intended to be at least partly returned by a front face of the glazing as well as a second beam intended to be at least partly



returned by a rear face of the glazing with a view to detecting foreign substances on the front and or rear faces of the glazing and the module includes at least one insert in the thickness of the glazing equipped with a first reflecting surface opposite the front face and with a second reflecting surface opposite the rear face while the receiving means are configured to receive at least parts of the first and second beams which are reflected respectively by the from and rear faces.

### ***Response to Arguments***

Applicant's arguments with respect to claims 4-22 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoon K Song whose telephone number is 703-308-2736. The examiner can normally be reached on 8:30 AM - 5 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-4858 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Application/Control Number: 09/743,717  
Art Unit: 2882

Page 9

Hoon K. Song  
October 7, 2003

HKS

*David Bruce*  
DAVID BRUCE  
PRIMARY EXAMINER